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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/506,544 | 01/14/2005 | Hiroshi Mashima | 258285US2PCT | 1342 |
| 22850 | 7590 | 07/18/2006 | EXAMINER | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | LE, TUNG X | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2821 | |

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/506,544 | MASHIMA ET AL. | |
| | Examiner | Art Unit | |
| | Tung X. Le | 2821 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment received 07/06/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2 and 4-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. This is a response to the amendment submitted on July 06, 2006. In virtue of this amendment, claim 3 is cancelled; and claims 1-2 and 4-8 are now presented in the instant application.

Claim Objections

2. Claim 4 is objected to because of the following informalities:

Claim 4, line 2, "Claim 3" should be changed to -- claim 1 --.

Appropriate correction is required.

3. Claim 8 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim 8 has not been further treated on the merits.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2, 4-6 and 8 are rejected under 35 U.S.C. 102(e) as being anticipate by Yamakoshi et al. (U.S. 2001/0021422 A1).

With respect to claim 1, Yamakoshi discloses in figure 8 a radio frequency power supply structure for use in a device generating plasma (1A) by charging a plate-like electrode (303 -305), facing an earth electrode (3), with a radio frequency power (5a), the radio frequency power supply structure supplying the plate-like electrode (303-304) with the radio frequency power from an RF cable (8a-8b), wherein the RF cable is positioned on an external plane (on same plane with 26a) of a plane (figure 8) formed by the plate-like electrode to connect to the plate-like electrode at a connecting position (the position connecting between the cable 8b and the plate electrode) provided between a core cable (8a-8b) of the RF cable and the plate-like electrode (303-305) on an end peripheral portion of the plate-like electrode (see figure 8), wherein the plate-like electrode forms a longitudinal grid plate shape (see the grid plate shape of electrode 303-304) facing the earth electrode (3) having two lateral electrodes (305) form two mutually opposed end peripheral portions (see figure 8) of the plate-like electrode, and a plurality of longitudinal electrodes (303-304) arranged between the two lateral electrodes (305) so as to connected to the two lateral electrodes (see figure 8).

With respect to claim 2, Yamakoshi discloses that the end peripheral portion of the plate-like electrode where the connecting is provided forms a right angle to the RF cable on the plane formed by the plate-like electrode at the connection portion (see figure 8, the cable (8a-8b) forms a right angle with electrode 305).

With respect to claim 4, Yamakoshi discloses that the RF cable is directed in parallel with the plurality of longitudinal electrodes to connect to the plate-like electrode

at the connecting portion (see figure 8, the cable (8a-8b) forms a right angle with electrode 303-304).

With respect to claim 5, Yamakoshi discloses in figure 8 that the RF cable (8b) directly connects to one of the plurality of longitudinal electrodes (304) at the connecting portion (9a).

With respect to claim 6, Yamakoshi discloses figures 8 and 17 that the core cable of the RF cable (8a-8b) connects to the plate-like electrode (303-305) so as to form a smoothly curved continuous surface at the connecting portion (9a).

With respect to claim 8, Yamakoshi discloses in figure 8 that a plasma CVD device (1A) comprises a radio frequency power supply structure (5a) (see paragraph [0137]).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakoshi (U.S. 2001/0021422 A1) in view of Buchberger, JR. et al. (U.S. 2005/0178748 A1).

With respect to claim 7, Yamakoshi discloses all of the claimed limitations, as expressly recited in claim 1, except for specifying that an outer shell of the RF cable is functioned as earth.

Buchberger, JR. et al. discloses in figure 1 an outer shell of a RF cable [162] is functioned as earth (see paragraphs [0152,0153]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the plasma generation apparatus of Yamakoshi by employing an outer shell of a RF cable being functioning as earth purpose for reducing the footprint coaxial tuning stub to achieve a high frequency characteristic of a matching impedance of the strip line conductor and the ground since such a ground of the outer shell of the RF cable has been well known in the art as evidenced by the teaching of Buchberger JR. (see paragraph [0120]).

Citation of Relevant Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yamakoshi et al. (U.S. 6,353,201 B1) discloses a discharge electrode, RF plasma generation apparatus using the same, and power supply method.

Lenz et al. (U.S. 5,534,751) discloses a plasma etching apparatus utilizing plasma confinement.

Moslehi (U.S. 5,079,481) discloses a plasma-assisted processing magnetron with magnetic field adjustment.

Response to Arguments

9. Applicant's arguments with respect to claim 1-2 and 4-8 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

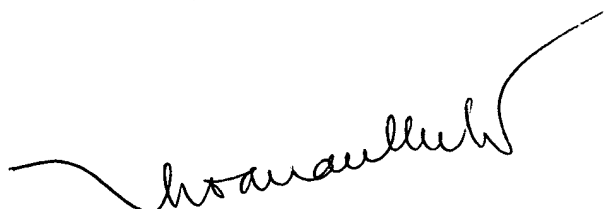
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung X. Le whose telephone number is 571-272-6010. The examiner can normally be reached on 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2821

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner
Tung Le
AU 2821



Hoanganh Le
Primary Examiner